(No Model.)

W. P. KISTLER.

MUSICAL INSTRUMENT.

No. 578,040. Patented Mar. 2, 1897.

Fig 1.

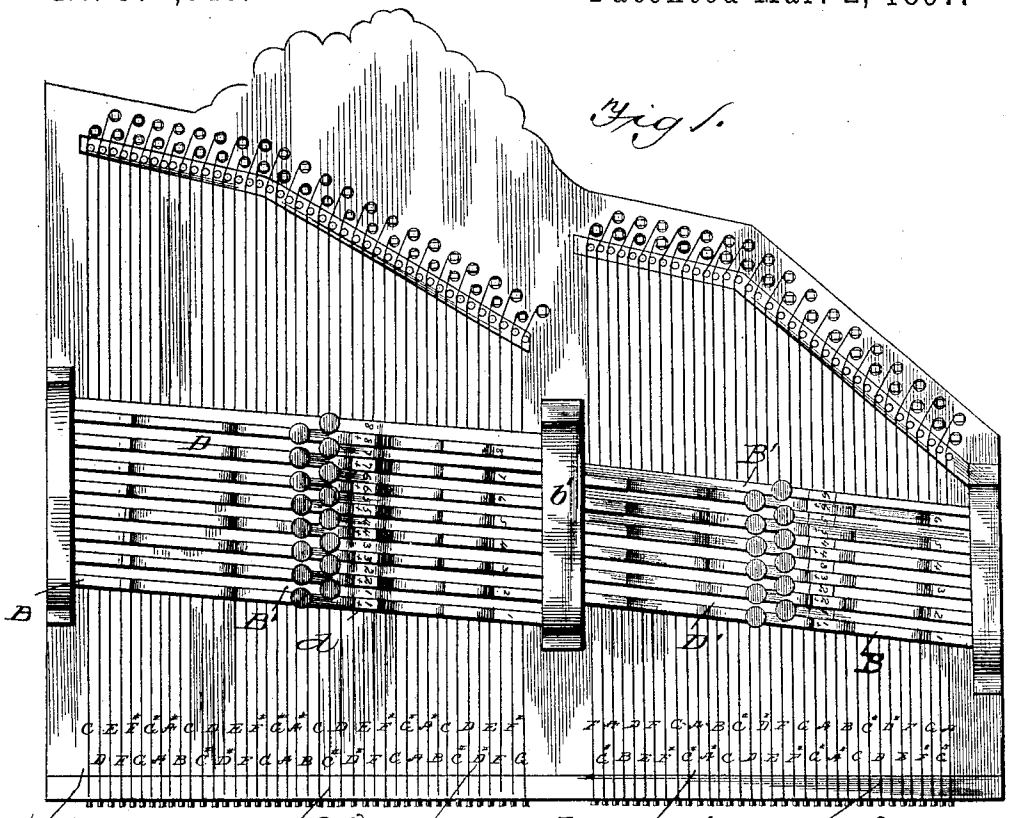


Fig. 2.

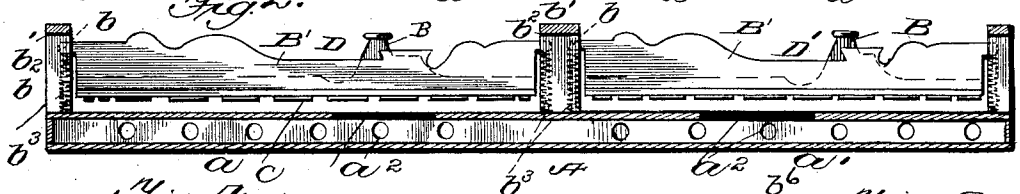


Fig. 4.

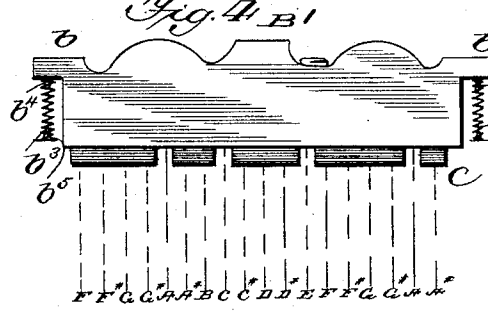
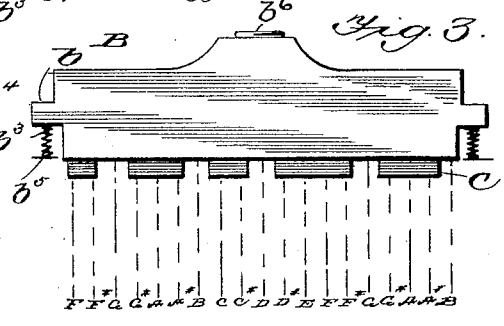


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 578,040, dated March 2, 1897.

Application filed January 11, 1896. Serial No. 575,133. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. KISTLER, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Musical Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention contemplates certain new and useful improvements in musical string instruments, and has for its object the production of simple and improved means whereby certain strings may be kept silent or "mute."

The invention will be hereinafter fully set forth, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a longitudinal sectional view. Fig. 3 is a view of a bar depressed so as to play a chord in the key of G major. Fig. 4 is a similar view illustrating a chord in E minor.

Referring to the drawings, A designates the sounding-board of any usual or preferred construction, the same being divided into two keyboards *a a'*, each of which is provided with a sounding-hole a^2. The strings a^3 are arranged to correspond with the chromatic scale. The designating musical letter of each string is indicated on each keyboard at a^4, each of said letters being located directly under its corresponding string.

B B' designate the bars used to mute the strings in playing the various musical chords, the bars B being operated while playing said chords in the major keys, while the bars B' are used in playing the chords in the minor keys. It will be noted that said key-bars are alternately arranged. The bars B and B' are provided with projecting end portions *b*, which are designed to fit under the top walls *b'* of overhanging brackets b^2, secured to the top surface of the sounding-board. Said bars are held in a normally-raised position by coil-springs b^3, encircling studs b^4, projecting from the under side of end portions *b*, and corresponding studs b^5, secured to the sounding-board. Each bar B B' is provided with a series of pads C, of felt or like material, which are designed, when said bars are pressed, to engage and mute all the strings on the keyboard save those strings which comprise the musical chord which it is intended said bar shall indicate. Rounded portions or buttons b^6 are formed on each bar to enable the same to be readily pressed, the buttons on the major-key bars forming one row and those of the minor-key bars forming a second row parallel with the former.

The alternate bars B B' are arranged in two groups or series D D', the former comprising sixteen bars, which are located over the strings comprising keyboard *a*, while the latter comprises twelve bars, located over the strings of keyboard *a'*. Each bar is numbered consecutively at *d*, and when depressed mutes all strings on its keyboard save the four which comprise a musical chord, every three of said bars, taken together, comprising a musical key. By this arrangement of the double keyboard I am enabled to obtain fourteen different musical keys, seven major and seven minor, which cannot be done on a single keyboard, the bars for the major and minor keys being alternately arranged together on each keyboard, as shown, and not on separate keyboards, as is now customary. The chords in the major and minor keys of G, D, C, and F are played with the series D, while the chords of the major and minor keys of A, E, and B are played with series D'.

The advantages of my invention are apparent and need not here be set forth. It will be specially observed that the bars can be quickly and uniformly depressed and that all liability of catching or striking is avoided.

I claim as my invention—

The combination with a musical instrument having a double keyboard and strings arranged thereon to represent the chromatic scale, of a central overhanging bracket located between said keyboards, and outer overhanging brackets secured to the outer edges of said keyboards, major and minor key bars alternately arranged over said strings and having projecting end portions fitting under said brackets, studs projecting from the under sides of said projecting end portions, a corresponding series of studs projecting from the sounding-board of said in-

strument beneath said brackets, and springs encircling both sets of studs and adapted to hold said key-bars in a normally-raised position, the inner ends of said key-bars fitting beneath said central bracket, and the outer ends thereof fitting beneath said outer brackets, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM P. KISTLER.

Witnesses:
GRANT S. EBY,
HOWARD A. SCHLENKER.